**NIAM activity on PM2.5**

As one of our first activities in NIAM we would like to look at how countries are addressing PM2.5 pollution, including how they model it, how they assess the health impacts, and how this feeds into policy. As a first step we are gathering information on current work in this area towards organisation of a virtual meeting in November.

If you are interested in participating please register your interest with an e.mail to [h.apsimon@imperial.ac.uk](mailto:h.apsimon@imperial.ac.uk). And if you are already working in this area we shall be grateful if you can also send a response to the questions below which will help us in planning a focus on this topic.

1. **Modelling PM2.5**

If you model PM2.5 concentrations in your country:-

1. Do you use GAINS, or independent modelling- in which case please give brief details.
   1. Yes, but also EMEP4NL, OPS-model, Lotos-Euros, costs and effectiveness of measures from PBL
2. What distance scales do you cover- e.g. European, national, city: and with what spatial and temporal resolution?
   1. All, national modelling 1\*1 km, city modelling 20\*20m, ecosystems 250\*250m
3. What components of PM2.5 do you include- e.g. primary PM2.5, secondary inorganic aerosol, secondary organic aerosol, natural dust etc?
   1. SOA is still missing
4. What emissions data do you use e.g. a national inventory. Are there particular sources you think are uncertain, missing, or would like to discuss?
   1. National inventory (1\*1km). Traffic emissions per street, individual emissions stables, Condensables uncertain + NRMM
5. Have you undertaken validation of your model against measurements, and if so what measurements do you have available to use
   1. Yes, national air quality monitoring system, low cost sensors for ammonia, PM and NOx
6. What do you think are the most important uncertainties or aspects of PM2.5 modelling that you would like to discuss
   1. Systematic underestimation; SOA
7. **Assessing health impacts**

The health impacts of PM2.5 are a major driver to reduce air pollution.

1. We are interested in how you use data on concentrations of PM2.5, either modelled or measured or both, to assess human exposure and health impacts?
   1. Annual exposure to PM and NO2 is used to estimate long term health risks (life expectancy, YOLL)
2. If you undertake such assessments of health impacts of PM2.5, do you follow WHO guidance and base this on total mass of PM2.5, or do you focus on particular components and/or differentiate relative toxicity?
   1. WHO guidance + solution for combined impacts of PM and NO2, based on DUELS-study (Fischer et al, 2015) = comparable to COMEAP-solution
3. What health impacts do you consider e.g. mortality, asthma etc; and what risk coefficients do you use?
   1. Life expectancy and YOLL (and for quick scans also morbidity, work days lost and monetary damage)
4. Do you assess the economic costs of health impacts, and if so what do you include e.g. life years lost, hospital/medical costs, loss in productivity/working days lost etc.?
   1. Yes
5. **Policy applications**

We are also interested in the application of your work, particularly as input to development of policy.

1. How do you relate your work to environmental goals e.g. compliance with regulations, or comparison with WHO guidelines?
   1. Both
2. **Publications**

Have you published your work, in which case please give references is available?

Velders et al 2019, https:doi.org/10.1016/j.atmosenv.2019.117109

1. **Questions**

Are there particular aspects of questions that you would like NIAM to address on PM2.5, including at the virtual meetings proposed for November.

Condensables; combined impacts of PM and NO2, health impacts of specific PM-species

Please e.mail your response to Helen ApSimon: h.apsimon@imperial.ac.uk